

Model SR1050

RESISTANCE STANDARDS & INSTRUMENTS

- Resistance transfers from 100k Ω to 110M Ω
- Eleven equal-value precision resistors
- Two models, decade steps 1M Ω to 10M Ω
- Complete control of insulation resistance in resistance transfers

High-Resistance Transfer Standard

Precise transfer measurements up to 110M Ω relative to a single 100k Ω resistance standard can be obtained with the Model SR1050 High-Resistance Transfer Standard. The unit is available in two models: 1M Ω and 10M Ω resistance sections.

Based on a unique method for establishing known ratios, the Model SR1050 standard utilizes a transfer technique that consists of switching resistance sections in parallel, series or series-parallel sections. An outstanding design feature is a structure in which the only insulation leakage paths (other than those within each resistance section) are from the external terminals to ground. This eliminates insulation leakage errors in the transfer of calibration from one resistance level to another using three-terminal measurement techniques.

A specially designed lever switch provides a convenient means of switching into parallel and series-parallel configuration without introducing insulation leakage errors. External shorting or paralleling bars are not necessary. Each resistance section consists of precision wire-wound resistors connected in series. The reduced heat concentration of the series connection improves the thermal characteristics of a resistance element with an already low temperature coefficient.



Model SR1050

HIGH RESISTANCE TRANSFER STANDARD

Specifications

Standard Values	1 and 10M Ω /step
Accuracy	
Transfer	Limited only by short-term repeatability of resistance values. Typical repeatability ± 2 ppm.
Initial	± 25 ppm of nominal value, matched within 10 ppm, for 1M Ω ; ± 30 ppm of nominal value, matched within 10 ppm, for 10M Ω .
Long-Term Calibration	± 50 ppm of nominal value ± 10 ppm for 1M Ω ; 15 ppm for 10M Ω .
Calibration Conditions	23°C, low power, three-terminal measurement
Temperature Coefficient	± 5 ppm/°C, matched within 5 ppm/°C
Power Coefficient	± 0.05 ppm/mW per resistor
Maximum Power Rating	1W/step or 5W distributed over 10 steps, or maximum voltage of 2.5kV where this value does not result in power excess of 1W per resistor.
Breakdown Voltage	3.5kV peak between active terminals and case
Leakage Resistance	Greater than $10^{13}\Omega$ from terminals to case
Calibration Data	Initial calibration readings are affixed to instrument
Dimensions	
Height	6.4 in.(16.25 cm)
Width	17 in.(43.2 cm)
Depth	5.6 in.(14.2 cm)
Weight	8.5 lbs. (3.9kg) net
Standard Equipment	Model SR1050 comes with a 6853 instruction manual

Initial Accuracy:

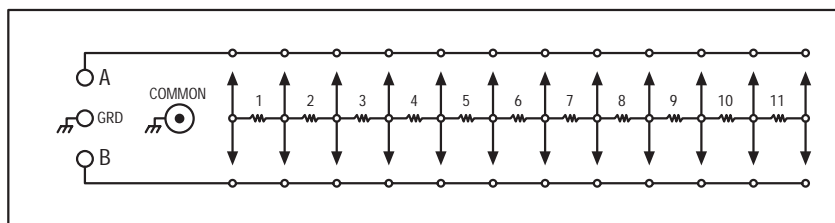
The specifications stated in the TEGAM instrument catalogs and data sheets are intended as acceptance specifications and are guaranteed for 60 days from the date of shipment. They are typically maintained for a much longer period of time.

Long-Term Accuracy:

These specifications are guaranteed for the standard warranty period, and are typically maintained for the life of the instrument. Long-term accuracy is implied when not otherwise stated.

Calibration Accuracy:

Calibration accuracy is the accuracy of TEGAM calibration data relative to the legal units maintained by the U.S. National Institute of Standards and Technology.



This data sheet was current when it was produced. However, products are constantly being updated and improved. Because of this some differences may occur between the descriptions herein and the current product. Prices and specifications may be changed without notice.



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